

M E M O R A N D U M

Date : November 8, 2013

**To : The Commission
(Meeting of November 14, 2013)**

**From : Ed Randolph
Director, Energy Division**

Subject: The Joint Reliability Plan

The attached Joint Reliability Plan is an agreement of the California Public Utilities Commission (CPUC) and the California Independent System Operator (ISO) to continue inter-organizational cooperation for future resource and reliability planning. The Joint Reliability Plan sets out a joint work plan that adopts guiding principles and that commits the CPUC and ISO to consider three inter-related initiatives on a proposed timeline. It does not commit to specific policy outcomes but does plan for consideration of the following initiatives through appropriate CPUC proceedings and ISO stakeholder processes: (1) multi-year resource adequacy requirements, (2) development of a unified long term reliability planning assessment, and (3) development of a market-based replacement to the ISO's existing backstop procurement tariff. Staff request the Commission adopt the Joint Reliability Plan.

**JOINT RELIABILITY PLAN OF THE
CALIFORNIA PUBLIC UTILITIES COMMISSION AND THE
CALIFORNIA INDEPENDENT SYSTEM OPERATOR CORPORATION**

NOVEMBER 8, 2013

I. EXECUTIVE SUMMARY

The California Public Utilities Commission (CPUC) and California Independent System Operator Corporation (ISO) present this Joint Reliability Plan¹ describing steps the two entities plan to take to ensure long-term electric reliability in California. Inter-organizational cooperation between the CPUC and ISO on resource and reliability planning has always been critical, but expected changes over the next decade merit the two organizations renewing their joint commitment to providing a reliable electric supply, at just and reasonable rates, while supporting the achievement of California's environmental policies.

The regulations as well as the planning and contracting processes that currently guide resource procurement in California have provided for reliable electricity service over the past decade. But California's electric system is undergoing fundamental changes as unprecedented levels of renewable resources reach commercial operation to meet California's renewable portfolio standard. California has also adopted a policy to retire, repower, or replace tens of thousands of megawatts of gas-fired power plants that use once through cooling technology in order to protect marine life. These transformations pose new operational and market challenges that resource planners and transmission operators must be aware of, and responsive to, in order to ensure reliable electricity supplies.

Accordingly, the CPUC and ISO agree on the guiding principles described herein and to consider three proposed initiatives set forth in this Joint Reliability Plan. This Joint Reliability Plan does not commit the CPUC or ISO to reach specific policy

¹ The Joint Reliability Plan is distinct from the CPUC-ISO staff document issued on July 10, 2013 called the Joint Reliability Framework. This Plan commits to work on the issues and policy options identified in the Joint Reliability Framework but does not commit to specific policy outcomes.

outcomes for the three proposed initiatives, but it commits the CPUC and ISO to consider their design and implementation through appropriate CPUC proceedings and ISO stakeholder processes. The CPUC and ISO will use the Joint Reliability Plan to give their efforts direction, focus, and precision to ensure that proposed changes to procurement requirements and processes satisfy their shared guiding principles.

While the Joint Reliability Plan does not predict future policy outcomes, it does present a vision for a future with an enhanced reliability framework. This work plan is expected to launch coordinated and interdependent initiatives. The Plan envisions assiduous inter-organizational cooperation to develop an adequate informational record upon which decision-makers can choose to act. Both organizations recognize that the changes under consideration to California's approach to energy policy are significant and require thorough vetting—with significant stakeholder input and analyses—prior to adopting decisions on policy outcomes that would bring these initiatives to a conclusion.

II. EXISTING RELIABILITY FRAMEWORK

The CPUC and ISO have provided for adequate reserves to support electric grid reliability for the past decade under a reliability framework with the following key elements:

One year-ahead resource adequacy program. Each October load serving entities (LSEs) must demonstrate that they have acquired sufficient resources to satisfy local capacity requirements and ninety percent of system capacity needs in the next calendar year. In 2013, the CPUC adopted flexible capacity requirements commencing with the 2015 resource adequacy compliance year.

Short-Term Procurement Planning. The CPUC approves short term procurement plans (bundled plans) demonstrating the investor-owned utilities (IOUs) plan to procure sufficient energy to meet customer demand.

Long-Term Procurement Planning. The CPUC ensures that there is sufficient investment in new generation resources to meet long-term future energy and capacity needs for all customers of CPUC-jurisdictional entities (including bundled and unbundled customers).

Capacity Procurement Mechanism. The ISO's tariff allows for backstop procurement of capacity by the ISO in the event a deficiency exists after accounting for the resource adequacy showings (including to respond to short-term reliability needs) or if the ISO determines that a resource is at

risk of retirement and will be needed by the end of the next calendar year following the current resource adequacy compliance year. Compensation is based on an administratively-determined price that resulted from a settlement approved by the Federal Energy Regulatory Commission (FERC).

Transmission Planning Process. The ISO conducts long-term reliability assessments that are used for planning purposes and to approve new transmission elements to help ensure reliability. Transmission enhancements to ensure reliability are frequently built after receiving a siting permit from the CPUC.

Although this existing reliability framework has generally provided for reliable operation of the transmission grid over at least the past decade, the CPUC and ISO agree to undertake the three initiatives described herein with the goal of improving and enhancing the existing reliability framework's procurement requirements and processes.

III. GUIDING PRINCIPLES FOR THE JOINT RELIABILITY PLAN

The overall objective of the Joint Reliability Plan is to evolve California's reliability framework as needed to adapt to the changing requirements of the electric grid by considering three specific initiatives. The CPUC and ISO agree to consider the following common guiding principles when assessing any proposed policy modifications that are taken up through the Joint Reliability Plan's proposed initiatives.

Principle 1: Provide the ISO balancing authority with sufficient capacity resources to satisfy system, local and flexible capacity needs.

Preserving grid reliability while meeting the State's renewable and once through cooling policy objectives will require the orderly retirement of resources that are no longer needed and the retention of resources that will be needed to meet emerging operational needs. This principle emphasizes that the ISO must have sufficient resources offered into the energy and ancillary services markets, in the right locations and with the right capabilities, to maintain reliable grid operations.

Principle 2: Fully accommodate resource procurement undertaken to meet California's policy mandates by counting capacity from resources procured pursuant to CPUC decisions in reliability assessments.

California's loading order describes the priority sequence for procurement to address the State's energy needs. After meeting energy needs to the extent possible with energy efficiency, demand response, renewable resources, distributed generation, and storage, California supports the development of clean and efficient fossil-fired generation. California implements the loading order under the existing reliability framework through CPUC procurement decisions and directives. This principle emphasizes that the reliability framework must fully accommodate the loading order and other state policy mandates. In doing so, the reliability framework must recognize and appropriately count capacity based on resources' contribution to reliability needs. The framework must accommodate all resources, including preferred resources that are procured pursuant to CPUC decisions.

Principle 3: Enhance participation by preferred resources in energy and capacity markets.

Preferred resources are authorized by the CPUC through a resource planning model and procured under specified directives from the CPUC, but participation by preferred resources in capacity and energy markets—and in direct competition with conventional resources—has been minimal to date. This principle emphasizes that achieving California's ambitious environmental goals while maintaining grid reliability should provide an opportunity that allows for greater participation by demand response, storage, and other preferred resources in both capacity markets for resource adequacy (for reliability planning purposes in advance of the delivery year) and in energy markets (to meet daily energy and operational needs). The CPUC and ISO share the principle that revisions to the existing reliability framework must ensure preferred resources have an equal opportunity to support grid reliability.

Principle 4: Minimize the risk that resources will seek to retire due to market failures, rather than environmental or design life limitations.

There is some risk that investments will fail in competitive markets, and some resources are expected to retire either because the resource has reached the end of its design life or to comply with environmental regulations. This principle emphasizes that the CPUC and ISO will seek to minimize the risk of an unexpected (disorderly) resource retirement that result from the resource receiving insufficient revenues to continue operations even when the resource will be needed to meet reliability needs. The CPUC and ISO are particularly concerned with mitigating the risk of unexpected retirements by resources that the ISO anticipates California will need in the future for local or flexible capacity attributes.

IV. COMMITMENT TO BEGIN THREE INITIATIVES

In adopting this Joint Reliability Plan the CPUC and ISO agree to undertake three interdependent initiatives at the CPUC and ISO through appropriate CPUC proceedings and ISO stakeholder processes. The CPUC will institute a rulemaking, and the ISO will institute appropriate stakeholder processes, to consider policy modification proposals relevant to the three initiatives that may enhance the existing reliability framework. The proposed initiatives are intended to enhance—not replace—the existing Resource Adequacy, Long-Term Procurement Planning, and Short-Term Procurement Planning Proceedings. The ISO and CPUC expect each of their respective assigned staff to work cooperatively to ensure that the initiatives proceed in a manner consistent with this Joint Reliability Plan, but both organizations recognize that stakeholder input and additional analyses may ultimately modify the initial proposals in each initiative.

Initiative 1 – Multi-Year Resource Adequacy Requirements:
Consider adopting procurement obligations two and three years-
ahead of the resource delivery year by extending the CPUC’s
resource adequacy program and extending ISO tariff rules.

The CPUC’s new rulemaking will consider expanding the current resource adequacy requirements to include two- and three-year forward resource adequacy requirements for system, flexible, and/or local capacity. In connection with this effort,

the ISO will explore developing forward resource adequacy requirements for all local regulatory authorities (LRAs). The ISO and CPUC will need to continue to coordinate their respective resource adequacy procurement rules.

Under the current reliability framework, LSEs engage in forward procurement beyond the current resource adequacy compliance year, in order to maintain a portfolio of resources to hedge price risks and ensure their ability to satisfy resource adequacy requirements in future compliance years. But information specifying the resources (and their capabilities) under contract for future years is not publicly available, and the amount or characteristics of resources procured is not enforceable as a multi-year forward reliability requirement on all LSEs in the ISO's balancing authority. This has raised concerns that un-contracted resources needed to meet future reliability needs could unexpectedly seek to retire. Retirement decisions could occur if a resource's short-term costs are not sufficiently covered by energy and ancillary service market revenues or by a resource adequacy or other capacity or energy contract. Providing information regarding the amount of forward contracting to the ISO may help alleviate concerns from a planning perspective, but it does not affect the possibility that resources may seek to retire unexpectedly.

In considering multi-year forward resource adequacy procurement obligations for jurisdictional LSEs, the CPUC will determine whether such obligations are appropriate and, if so, what percentage of each type of capacity to secure in advance of the resource adequacy delivery year. The CPUC will take into account the guiding principles including minimizing the risk of unexpected resource retirements.

As part of the CPUC proceeding for considering multi-year resource adequacy, the CPUC will also consider requiring jurisdictional LSEs to submit data to the ISO identifying all resources they have secured throughout the entire three-year forward time period, even for resources in excess of minimum compliance requirements. Having such information could facilitate ISO planning decisions and determinations of future grid requirements. The CPUC will also consider how to allocate forward resource adequacy procurement obligations among its jurisdictional LSEs in light of potential load migration, and the minimum performance obligations required for resource adequacy contracts.

The ISO will consider the development of tariff-based resource adequacy requirements for all LRAs. The ISO will also need to consider tariff rules to establish performance requirements and must offer obligations aligned with operational needs for the applicable resource adequacy delivery year.

Initiative 2 – Unified Long Term Reliability Planning Assessment:
Conduct a joint CPUC-ISO resource adequacy planning assessment up to ten years into the future.

Under the second initiative of the Joint Reliability Plan, the CPUC and ISO will coordinate develop and publish, either on an annual or biennial basis, a joint long-term reliability planning assessment. The assessment would identify local, flexible, and system needs and would evaluate needs against both the installed fleet and resources that are already-owned or under contract.

The CPUC considers these types of assessments in its Long-Term Procurement Planning proceedings and in the Resource Adequacy proceedings, and the ISO considers these types of assessments in its Transmission Planning Process. But a unified assessment of load and resources in California has never been produced on a forward basis across all three capacity parameters, on a regular schedule, or using standardized methodologies for assessing data.

In considering this initiative, the CPUC and ISO staff will seek additional authority, if needed from their respective governing bodies, to compile and analyze data required to complete long-term forward reliability planning assessments and publish the results (or a subset of results determined to be appropriate to be publicly released). The CPUC would consider such issues in the new rulemaking established pursuant to the Joint Reliability Plan. The assessment would cover the four- to ten-year forward planning horizon, although the CPUC and ISO staff may reduce the number of years analyzed or published to reduce administrative burden or to maintain the confidentiality of market sensitive information. Given the overlap and coordination needed with the state's demand forecast produced by the California Energy Commission (CEC), the CPUC and ISO would coordinate with the CEC to assist in developing these assessments. The CEC's existing Integrated Energy Policy Report (IEPR) process may offer a platform to collect data needed for portions of the supply assessment. Finally,

the CPUC and ISO staff may elect to submit the resulting assessment as appropriate for adoption or approval by the Commission, the ISO Board of Governors, and/or the CEC.

The reliability planning assessment would build upon existing planning processes, to develop a common forecast of system, local, and flexible capacity resource needs. This assessment will be helpful for system resource planners and market participants to understand what resources will be needed to meet emerging operational needs. The assessment would be conducted for information purposes only and would not create any additional procurement obligations, procurement authority, or ISO backstop procurement authority.

Initiative 3 – Replace ISO’s Backstop Procurement Tariff:
Develop a market-based ISO mechanism to replace the ISO’s Capacity Procurement Mechanism (CPM) backstop procurement authority.

Under the third initiative the ISO, in cooperation with the CPUC, will consider through an ISO stakeholder process how to develop and design a market-based ISO backstop procurement mechanism to replace or augment the existing CPM mechanism, which compensates resources using an administrative price. The ISO will require authority from FERC to replace or augment the CPM mechanism with a market-based backstop. The ISO will conduct a stakeholder process to consider design elements for a CPM replacement, such as a proposal for a Reliability Services Auction or other market-based mechanism, to serve as the primary backstop procurement mechanism for the ISO to cure deficiencies in the resource adequacy program. In addition to providing a backstop procurement mechanism to replace the CPM, the ISO will consider allowing LSEs to utilize the auction to clear voluntary bids to buy, and for resources to sell, forward capacity in excess of any forward capacity procurement requirements. It will also be important to consider appropriate market power mitigation rules that should be incorporated into the design of any Reliability Services Auction. The ISO may also propose retaining some existing authority for backstop procurement on short time-frames, such as for exceptional dispatch or to mitigate significant events.

It is likely that LSE participation in a Reliability Services Auction or other market-based backstop mechanism to procure capacity to meet minimum resource adequacy

requirements would be voluntary, because LSEs may achieve compliance with forward resource adequacy obligations by demonstrating resources they own or have under contract. A Reliability Services Auction may also have a mandatory component to the extent that backstop procurement is necessary for the ISO to cure confirmed deficiencies in the resource adequacy compliance showings submitted by LSEs. Participation in a Reliability Services Auction will be subject to all existing laws and regulations that govern existing procurement obligations on LSEs. For the CPUC jurisdictional utilities, participation would be subject to any limitations or authority provided through the CPUC-approved bundled procurement plans or otherwise applicable decisions that issue from the CPUC. Further, a Reliability Services Auction, if adopted, would not preclude or exempt the utilities from satisfying resource needs identified and authorized through the CPUC's Long Term Procurement Planning or other proceedings.

Concurrent with the ISO stakeholder process, the new rulemaking instituted by the CPUC to consider the Joint Reliability Plan's initiatives will also consider issues relevant to developing a Commission position on any proposed Reliability Services Auction. The CPUC rulemaking will also determine the extent to which CPUC-jurisdictional utilities may be authorized to participate in a Reliability Services Auction to meet forward resource adequacy compliance requirements and how such participation will affect or relate to procurement authorized through existing CPUC policy mandates (in particular preferred resources). Issues relevant to such determinations will be identified in the scope of the new CPUC rulemaking but may include, for example, considering interdependencies between the proposed design of any Reliability Services Auction, proposed (or adopted) multi-year resource adequacy requirements, and existing bilateral and other procurement processes. The CPUC proceeding will provide a procedural forum in which stakeholders may submit, and the CPUC may consider, analyses and other evidence on how the ISO's proposed backstop mechanism could affect or interact with CPUC procurement and resource planning policy decisions. The CPUC proceeding, however, will not develop the design of the ISO backstop mechanism. The ISO will develop the design details of the proposed backstop

mechanism through an ISO stakeholder process conducted in close coordination with the CPUC.

While the CPUC and ISO recognize that the CPUC proceedings and ISO stakeholder processes are interdependent, a CPUC decision is not a condition precedent to the ISO completing its stakeholder process concerning a market-based replacement backstop mechanism such as a Reliability Services Auction. The details of the proposed design will, however, be significant to any CPUC decisions to modify the existing reliability framework, including supporting or opposing the ultimate form of the backstop as it is designed by the ISO, and the CPUC expressly reserves the right to oppose an ISO filing seeking FERC authority to institute a Reliability Services Auction.

The ISO currently has authority to procure resources to meet reliability needs under the existing CPM tariff, which compensates resources based on an administratively-determined price. Market participants have expressed concerns that the existence of a fixed CPM price may be distorting bilaterally-negotiated contracted prices in today's market, particularly in transmission-constrained areas where resources may negotiate for a bilateral payment at or near the fixed price CPM payment. A recent order issued by FERC also encouraged the ISO to develop a market-based mechanism to ensure that the resources the ISO requires for their operational characteristics or location remain available to meet reliability needs.² At the same time, the design of a market-based backstop procurement mechanism must fully accommodate resource procurement undertaken pursuant to CPUC decisions. Any CPM replacement mechanism should not inappropriately distort the prices or volume of bilaterally-negotiated capacity contracts or fail to fully recognize resources (preferred or new conventional) that have been procured as a result of or through state policy mandated programs. Any CPM replacement mechanism should also not be designed to be or become the primary forward capacity procurement mechanism for LSEs.

The ISO and CPUC staff will also coordinate on a process to ensure that the format of a backstop procurement market mechanism is durable. The ISO and CPUC staff will seek to engage FERC staff early and often throughout the development of this

² *California Indep. Sys. Operator Corp.*, 142 FERC ¶ 61,248 (2013).

mechanism, especially in light of the unique nature of the proposals under consideration. If the CPUC and ISO agree on the detailed design elements, the ISO and CPUC envision that the ISO would submit a settlement to FERC. Such a process should provide the ISO with authority to make appropriate revisions to enhance or improve a Reliability Service Auction based on its operating experience pursuant to a defined process involving the CPUC and other stakeholders. To the extent filing a settlement is not achievable but the CPUC and the ISO have still reached agreement on the detailed design elements, the ISO would expect to file tariff provisions that are otherwise consistent with the Joint Reliability Plan. Either approach should give durability to the design elements of a Reliability Services Auction. Notwithstanding the above, if the CPUC and ISO cannot reach agreement on the detailed design elements of a Reliability Services Auction, the ISO reserves its right to seek FERC authority to implement a Reliability Services Auction or other backstop procurement mechanism to ensure reliable operation of the electric grid.

V. KEY STEPS FOR IMPLEMENTING THE JOINT RELIABILITY PLAN

The CPUC will open a new rulemaking to establish a procedural forum and timeline for considering multi-year resource adequacy requirements for jurisdictional LSEs and related issues arising in the initiatives addressing unified long-term reliability planning and replacing the ISO's backstop procurement tariff. The ISO will commence a stakeholder process to consider replacing its backstop procurement tariff and will institute other stakeholder processes as needed to implement tariff changes related to issues arising in the initiatives addressing unified long-term reliability planning and multi-year resource adequacy requirements. The CPUC and ISO staff will work together to coordinate the timelines of the proceedings based on interdependencies that require staging or coordination of policy or program or tariff design decisions. By adopting the Joint Reliability Plan both organizations also commit to provide staff resources to engage in the processes established at each organization for consideration of the Joint Reliability Plan's initiatives.

Key Steps for Initiative 1: Multi-year Resource Adequacy

- CPUC opens a proceeding by January 2014 that details the scope and procedural schedule for considering proposals for the aspects of the three proposed initiatives in the Joint Reliability Plan.
- CPUC staff proposal and workshops on multi-year resource adequacy requirements in Q1 2014.
- CPUC Decision on multi-year resource adequacy (subject to scope determined in the proceeding) by early 2015.
- ISO initiative to consider multi-year resource adequacy procurement requirements for all local regulatory authorities.

Key Steps for Initiative 2: Joint Reliability Planning Assessment

- Determine scope of Joint Reliability Planning Assessment and develop a CPUC-ISO work plan to determine data needs and approach to conducting the assessment, in coordination with CEC.
- Publish draft paper describing methodology and format of assessment.
- CPUC rulings on confidentiality and methodology as needed.
- ISO technical studies or workshops as necessary.
- CEC data collection through IEPR, if appropriate.
- Coordinate process and publication timelines with demand forecast process in IEPR.
- Publish first assessment in draft and final form, and adopted formally by CPUC, ISO, and possibly CEC.

Key Steps for Initiative 3: Replace ISO's Backstop Procurement Tariff

- ISO commences stakeholder process in the fourth quarter of 2013 for developing replacement to CPM backstop procurement mechanism, such as design elements for a Reliability Services Auction.
- CPUC scoping of issues and timeline for Commission policy decisions in rulemaking proceeding needed to support ISO tariff filing to replace or supplement CPM.

- ISO Board decision on new tariff design in the third quarter of 2014. The ISO may consider sequencing the implementation of a replacement backstop mechanism for the existing one-year forward resource adequacy requirements ahead of the implementation of a backstop replacement for two-and three-year forward resource adequacy requirements.
- CPUC takes a position, at an appropriate time relative to an ISO Board decision, on the proposed structure of mechanism to replace or supplement CPM, which may be concurrent with or after CPUC decision on multi-year resource adequacy.
- ISO FERC filing in the first quarter of 2015.
- Implementation in advance of a specified resource adequacy compliance year with a goal of implementation for the 2016 resource adequacy compliance year.

VI. CONCLUSION

The CPUC and ISO are launching a process to consider the three proposed initiatives because it is prudent to review options to ensure that the state is on track to maintain resource adequacy in the near- and long-term. Now is the right time to endorse a plan that commits the necessary resources to developing the information that is essential for understanding and determining appropriate actions on the three initiatives.